CDF Operations Report

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All Experiments' Meeting
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CDF Operations

Store 3943

- Initial lum 64E30 and losses were good. 4 hrs into the store, Tevatron quenched due to Tev E2 wet engine failure. CDF controlled accesses:
  - Silcon, CMX, CES, Halo counter and West BMU diagnostic works

Store 3945

- Initial lum 110E30, several problems at the beginning of the store
  lost couple hours to problems with L3/EVB, shower max system
- After solving the problem, we have been taking data with > 80% efficiency
- High Luminosity Running without ISL crates
  - to study effect on high BUSY dead time problem

- A series of "End of Store" tests are done!!
  - SVT test run, Silicon D-mode calibration run
  - Trigger table tests and Pulsa tests
  - New EVB code test
  - New HIGHLUM trigger table test

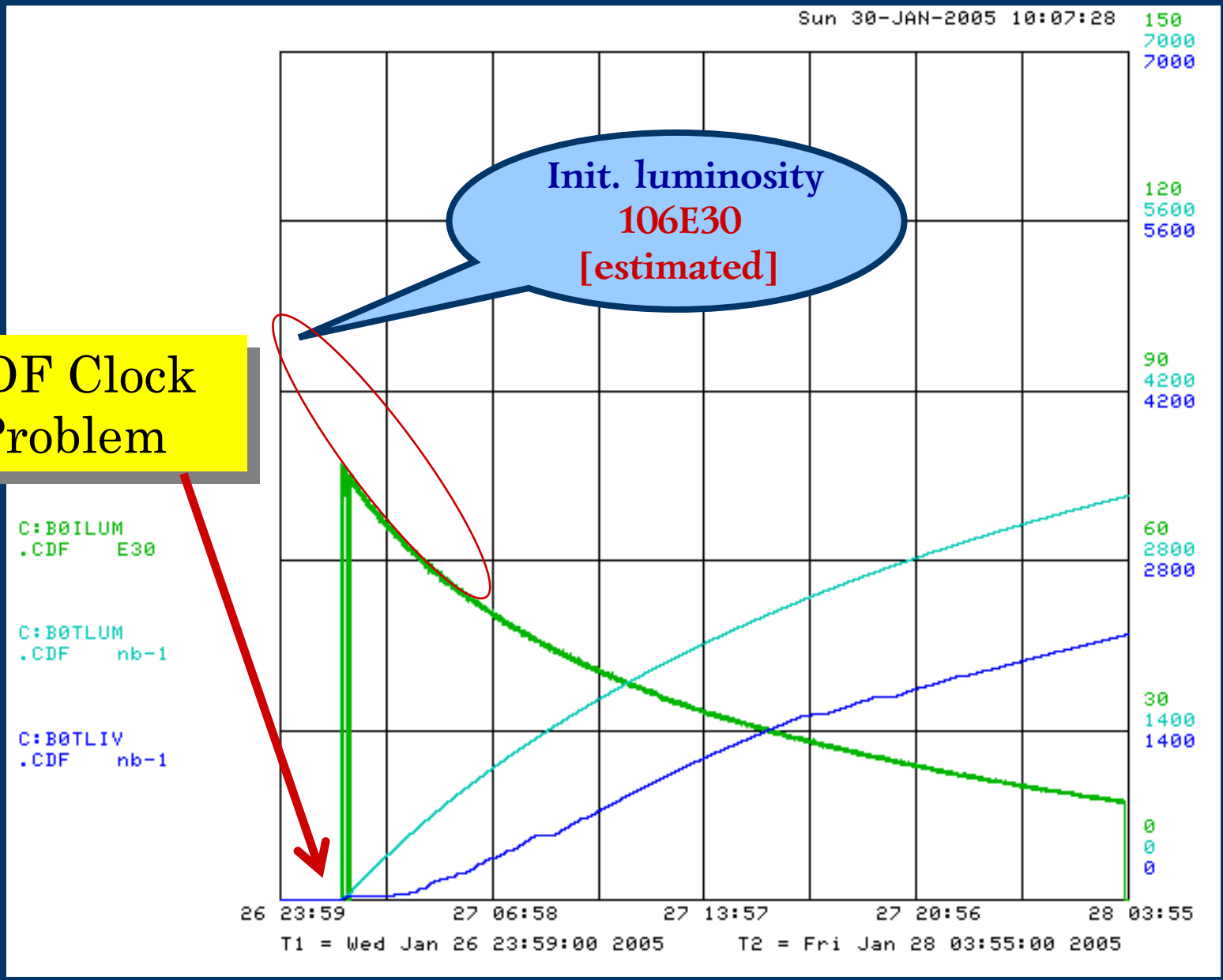
CDF Operations

Store 3948

- CDF clock problem at start of the store
  - started just before the final protons were loaded and last a few hours into the shot. (Init lumi estimated: 106E30)
  - The problem was traced to a single card in the "clock fan-out module", experts came in and replaced it. (special thanks to S. Chappa)
- CDF clock was up and running at 02:10, started to take a data.
- The loss of the clock caused major problems for the muon triggers. (99% DT)
  - spent another couple hours to figure out the problem

- After solving all problems, CDF started taking physics quality data with all systems on and working around 05:30.

CDF took data smothly with 85~90% efficiency untill end of the store.


Sun 30-JAN-2005 10:07:28
Init. luminosity
106E30
[estimated]
CDF Clock
Problem
C:B0ILUM
.CDF E30
C:B0TLUM
.CDF nb-1
C:B0TLIV
.CDF nb-1
150
7000
7000
120
5600
5600
90
4200
4200
60
2800
2800
30
1400
1400
0
0
0
26 23:59
27 06:58
27 13:57
27 20:56
28 03:55
T1 = Wed Jan 26 23:59:00 2005
T2 = Fri Jan 28 03:55:00 2005

CDF Operations

Store 3950

- Initial lum 102E30
- At the beginning of store, we looked at our busy dead-time problem; it is understood now [data size issue]. Once the data gets too large, the VRB (VME readout buffers)'s have to do multiple transfers. This slows us way down.
- Possible solutions:
  - New DSP code up/running – that will cut the COT event size by 50%.
- CDF has run quite smoothly this store: ~90% efficient.

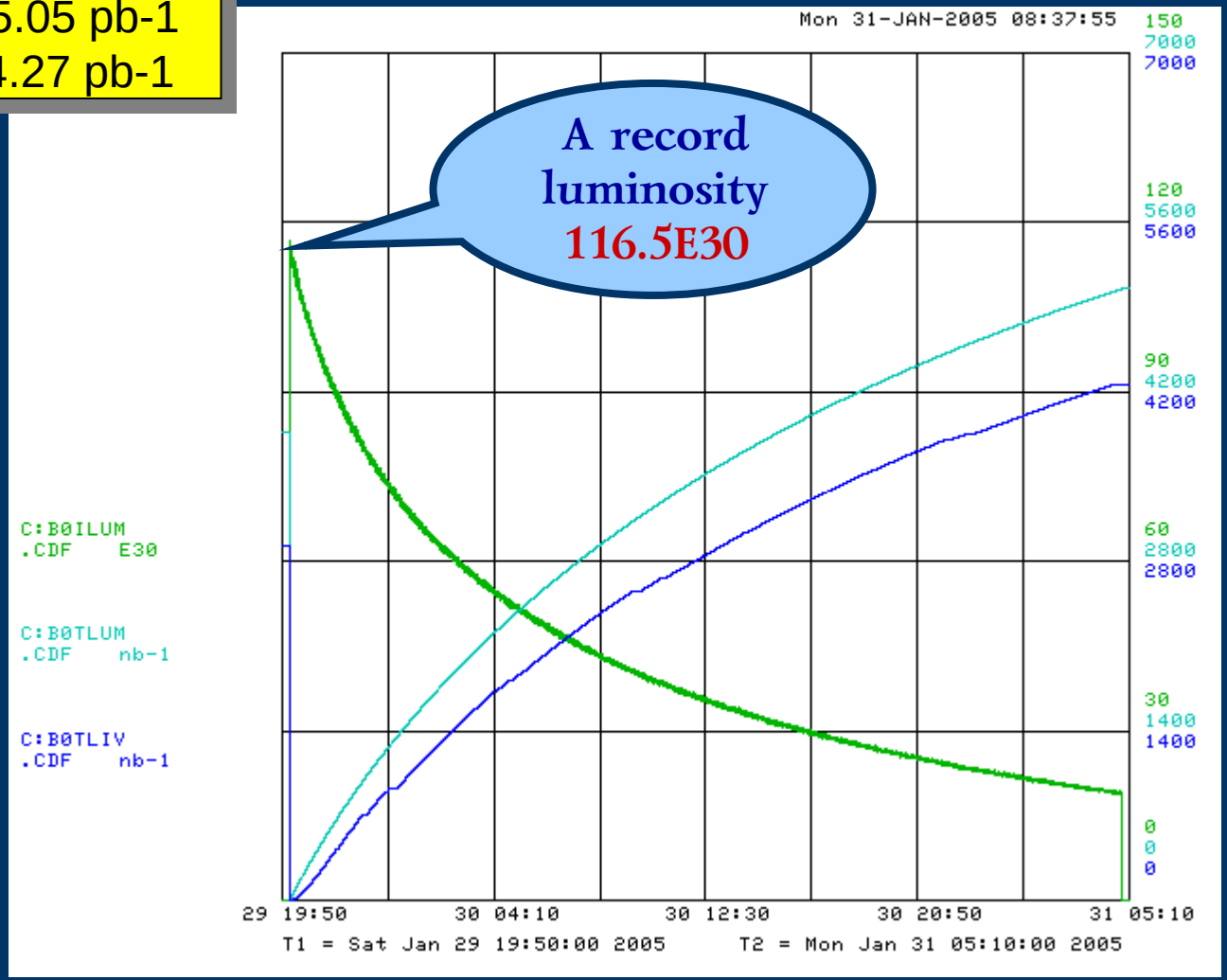
Store 3952

A record luminosity 116.5E30

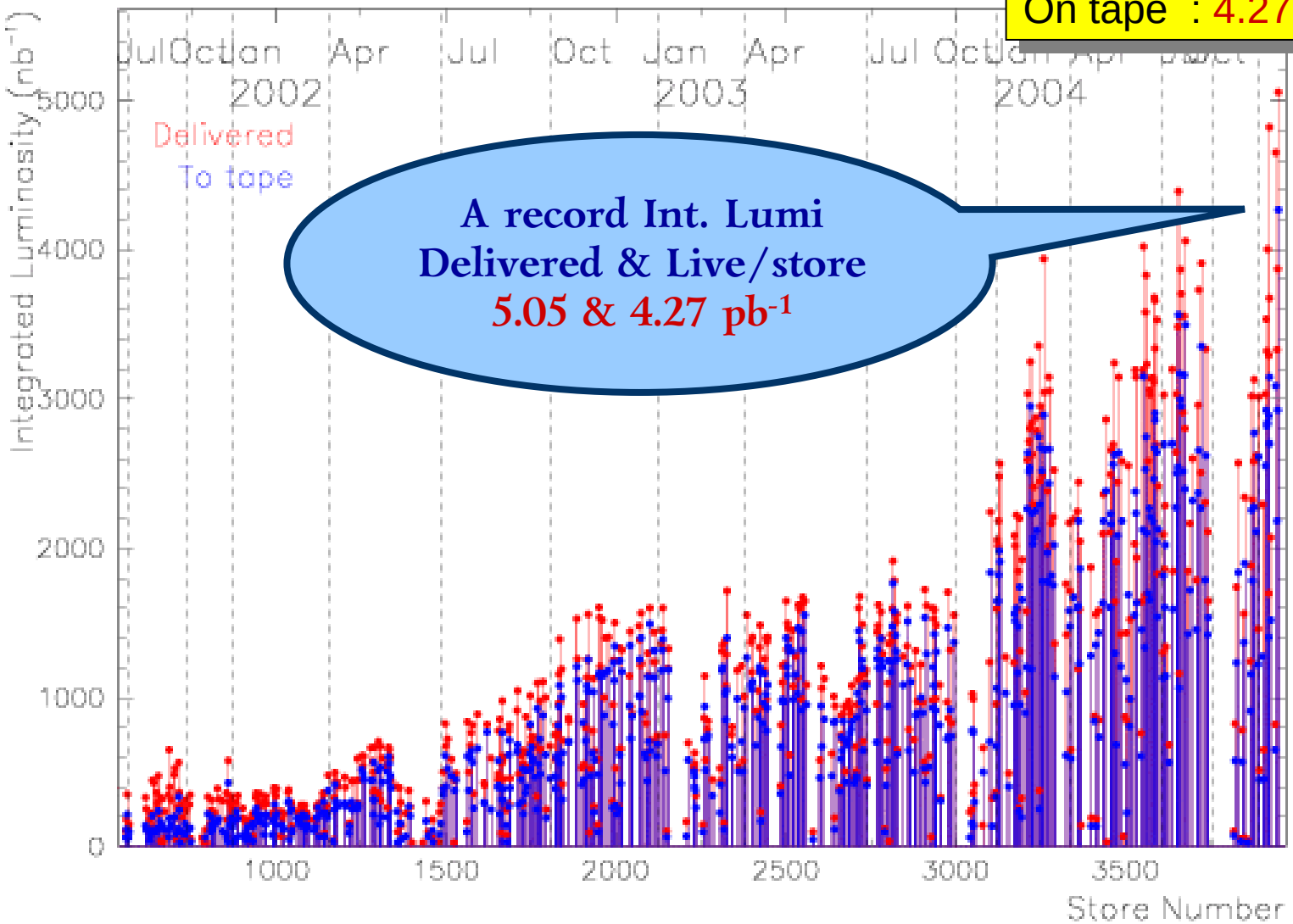
- Initial lum 116.5E30
- At the beginning of store, even with the high lum table, we were 40% dead time though we came up quite well and were taking data smoothly the entire store.
- This dead time is not a trigger problem but a readout problem.
- need to get the event size smaller - hope to do this in the next few days with the new DSP code.
- Efficiency: Live(84.4%), GoodRun(84.3%), GoodRun w/ Silicon(84.3%)

Store 3952: Record Lumi

Init Lumi : 116.5E30
Delivered: 5.05 pb-1
On tape : 4.27 pb-1



Store 3952
Delivered: 5.05 pb^{-1}
On tape : 4.27 pb^{-1}



Store Summary

Store	Start Date	Duration [hours]	Inst Lumi Initial E30 cm^{-2} s^{-1}	Int. Lumi Delivered [nb^{-1}]	Live Lumi [nb^{-1}]
3943	1/24	4.6	64.9	820.1	650.9 79%
3945	1/25	33.3	110.3	4650.2	3084.3 66%
3948	1/26	28.2	**106** estimated	3328.9	2186.4 66%
3950	1/28	29.3	101.9	3868.3	2922.6 76%
3952	**1/29**	**33.0**	***116.5***	**5052.8**	**4265.2** **84%**
Total 3943-3652	**1/24-1/29**	**128.4**		**17,720**	**13,109** **74%**